

Plants recorded from Vostok Island

by C. R. Long

cards agree

Nyctaginaceae

^{repens L.}
Boerhavia sp.

^{as. Boerhavia diffusa /}
W. G. Anderson s.n. (BISH), C. R. Long 3191, 3202, 3203,
3204, 3208 (UH).

Pisonia grandis R. Br.

W. G. Anderson s.n. (BISH), C. R. Long 3192 (UH).

Vegetation and Flora of Vostok Island

by C. R. Long

The flora of Vostok Island consists of two species of vascular plants, Boerhavia repens L. and Pisonia grandis L. (Fosberg, 1937). Collections of these species were made in 1935 by W. J. Anderson and in 1965 by C. R. Long. These collections are summarized below. The sheets are filed at the B. P. Bishop Museum and the University of Hawaii.

Nyctaginaceae

Boerhavia repens L.

Anderson s.n. (BISH) as Boerhavia diffusa; Long 3191, 3202, 3203, 3204, 3208 (UH).

Pisonia grandis R. Br.

Anderson s.n. (BISH); Long 3202 (UH).

The island remains much as Anderson reported with a dense growth of Pisonia trees to approximately 20 m. high. Towards the middle of the island are random clearings with thick layers (to .35 m.) of decayed leaves and wood. On the sandy edges of these clearings several Boerhavia plants were observed. Several excavations were made in the open areas and under the canopy. Underlying the humus was a phosphatic hardpan which was very friable in the top layers. The high branches of the Pisonia were used by the Great Frigatebird as nesting sites. Some of the upper branches were bare in the vicinity of the nest sites due perhaps to the activities of these birds. On the north and east sides of the island were open coral sand and rubble with Boerhavia in vigorous masses. This site was used by nesting Blue-faced Boobies (Sula dactylatra). This strip of low vegetation varied from 3 to 20 m. in width. An intensive search of the island failed to reveal other plant species particularly the Portulaca reported by Bryan (1942). The Polynesian rat was common within the forest canopy. It may be that the Portulaca is eaten by this species.

At the southwest end there is an outcrop of consolidated beachrock. It seems highly probable that both of the native species were introduced by birds as the seeds of both are sticky and thus easily transported. No evidence of Pisonia seedlings was found but numerous sprouts from fallen trunks and exposed roots were seen. Binoculars were used to scan the upper branches but no fruits were observed. Along the west side areas of eroded soil and newly deposited sand were observed. This evidence together with the clearing in the center of the island probably indicates high wave action prior to the visit of the Pacific Project party in June 1965. Sea water and heavy rains probably seep through the porous central area which is at a lower elevation than the beach crests and inner slopes.

The areas beneath the Pisonia canopy are devoid of vegetation with the exception of crusts of bluegreen algae which cover the soils surface, rotting trunks and coralline boulders. No thick recent guano deposits were observed on the soil surface under the canopy. The humus depths vary under

the canopy suggesting that a lagoon may have existed at one time. The deepest litter and humus layers are found in the central area. Small coconut crabs were found but there was no evidence of Cocos on the island. The absence of such species as Lepturus and Portulaca is remarkable. The common bunchgrass is also absent from Birnie Island where there is good evidence of frequent shifts in the sandy soil due to high wave action. This may explain the absence of Lepturus from these small islands.

Bryan, E. H., Jr. 1942.

American Polynesia and the Hawaiian Chain. 1-253, Honolulu.

Fosberg, F. R. 1937.

Bishop Mus. Spec. Publ. 30: 19.